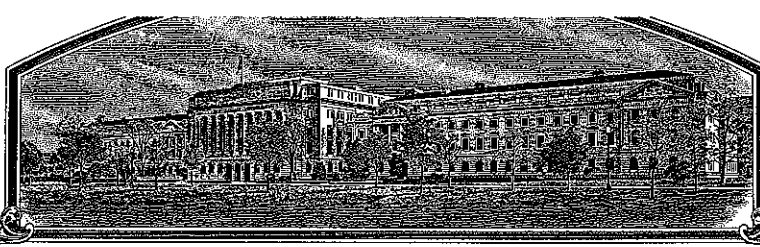


No.

200400020



# THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

New Zealand Institute for Crop & Food Research Ltd.

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE PURPOSES, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

OAT

'114'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this sixth day of December, in the year two thousand and six.

Attest:

Commissioner  
Plant Variety Protection Office  
Agricultural Marketing Service

Secretary of Agriculture

U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE  
SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE

**APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE**  
(Instructions and information collection burden statement on reverse)

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

NAME OF OWNER New Zealand Institute for Crop & Food Research LTD		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME Croa 114	3. VARIETY NAME 114
ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country)  Private Bag 4704 Christchurch, New Zealand		5. TELEPHONE (include area code) +64-3-325-6400	FOR OFFICIAL USE ONLY  PVPO NUMBER <b>2004 000 20</b>
		6. FAX (include area code) +64-3-325-2074	
IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.) Ltd. (Limited)	8. IF INCORPORATED, GIVE STATE OF INCORPORATION	9. DATE OF INCORPORATION	
NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. (First person listed will receive all papers)  ProGene LLC Kurt Braunwart 860 S. Crestline Othello, WA 99344			FILING DATE <b>October 16, 2003</b>
TELEPHONE (include area code) (509) 488-3977		12. FAX (include area code) (509) 488-5289	FILING AND EXAMINATION FEES: ① 2705.00 ② 947.00 ① 10/16/03 DATE ② 10/24/03
13. E-MAIL progene@cbnn.net		14. CROP KIND (Common Name) Oats	CERTIFICATION FEE: \$ 768.00 DATE 8/21/2006
GENUS AND SPECIES NAME OF CROP Avena sativa		16. FAMILY NAME (Botanical) Graminaceae	17. IS THE VARIETY A FIRST GENERATION HYBRID? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse) a. <input checked="" type="checkbox"/> Exhibit A. Origin and Breeding History of the Variety b. <input checked="" type="checkbox"/> Exhibit B. Statement of Distinctness <b>MAY 10/21/2003</b> c. <input checked="" type="checkbox"/> Exhibit C. Objective Description of Variety d. <input type="checkbox"/> Exhibit D. Additional Description of the Variety (Optional) e. <input checked="" type="checkbox"/> Exhibit E. Statement of the Basis of the Owner's Ownership f. <input checked="" type="checkbox"/> Voucher Sample (2,500 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository) g. <input checked="" type="checkbox"/> Filing and Examination Fee (\$2,705), made payable to "Treasurer of the United States" (Mail to the Plant Variety Protection Office)		19. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? See Section 83(a) of the Plant Variety Protection Act <input type="checkbox"/> YES (If "yes", answer items 20 and 21 below) <input checked="" type="checkbox"/> NO (If "no", go to item 22)	
		20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF CLASSES? IF YES, WHICH CLASSES? <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED	
		21. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? IF YES, SPECIFY THE <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED NUMBER 1,2,3, etc. (If additional explanation is necessary, please use the space indicated on the reverse.)	
HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U.S. OR OTHER COUNTRIES? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. (Please use space indicated on reverse.)		23. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT (PLANT BREEDER'S RIGHT OR PATENT)? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF YES, PLEASE GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. (Please use space indicated on reverse.)	
The owners declare that a viable sample of basic seed of the variety will be furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate.			
The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.			
Owner(s) is(are) informed that false representation herein can jeopardize protection and result in penalties.			
SIGNATURE OF OWNER <i>Kurt Braunwart</i> ProGene LLC managing owner as agent for owner in U.S. Canada		SIGNATURE OF OWNER	
NAME (Please print or type) Kurt Braunwart Representative of Applicant		NAME (Please print or type)	
CAPACITY OR TITLE Managing Owner- ProGene LLC	DATE 10/6/03	CAPACITY OR TITLE	DATE 1

2004-00020  
application form signed by the owner; (2) completed exhibits A, B, C, E; (3) for a seed reproduced variety at least 2,500 untreated seeds, or a hybrid variety at least 2,500 untreated seeds of each line necessary to reproduce the variety, or for tuber reproduced varieties verification that a viable (in the sense that it will reproduce an entire plant) tissue culture will be deposited and maintained in an approved public repository; (4) check drawn on a U.S. bank for \$320 filing fee and \$2,385 examination fee, payable to "Treasurer of the United States" (See Section 97.6 of the Regulations and Rules of Practice.) Partial applications will be held in the PVPO for not more than 90 days, then returned to the applicant as unfilled. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 500, NAL Building, 10301 Baltimore Avenue, Beltsville, MD 20705-2351. Retain one copy for your files. All items on face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initialed and dated. **DO NOT** use masking materials to make corrections. If a certificate is allowed, you will be requested to send a check payable to "Treasurer of the United States" in the amount of \$320 for issuance of the certificate. Certificates will be issued to owner, not licensee or agent.

Plant Variety Protection Office

Telephone: (301) 504-5518

FAX: (301) 504-5291

Homepage: <http://www.ams.usda.gov/science/pvpo/pvp.htm>

ITEM

- 18a. Give: (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method; (2) the details of subsequent stages of selection and multiplication; (3) evidence of uniformity and stability; and (4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified
- 18b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If a new variety is most similar to one variety or a group of related varieties:
- (1) identify these varieties and state all differences objectively;
  - (2) attach statistical data for characters expressed numerically and demonstrate that these are clear differences; and
  - (3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness.
- 18c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.
- 18d. Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, etc.
- 18e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.
19. If "Yes" is specified (*seed of this variety be sold by variety name only, as a class of certified seed*), the applicant **MAY NOT** reverse this affirmative decision after the variety has been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. (See *Regulations and Rules of Practice*, Section 97.103).
22. See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.
23. See Section 55 of the Act for instructions on claiming the benefit of an earlier filing date.

21. CONTINUED FROM FRONT (Please provide a statement as to the limitation and sequence of generations that may be certified.)

22. CONTINUED FROM FRONT (Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the U.S. or other countries.)

DATE of first sale 10/24/2002

MAH 7/25/2006

23. CONTINUED FROM FRONT (Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right (Plant Breeder's Right or Patent).)

NOTES: It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or owner's representative during the life of the application/certificate. There is no charge for filing a change of address. The fee for filing a change of ownership or assignment or any modification of owner's name is specified in Section 97.175 of the regulations. (See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of the Regulations and Rules of Practice.)

To avoid conflict with other variety names in use, the applicant must check the variety names proposed by contacting: Seed Branch, AMS, USDA, Room 213, Building 306, Beltsville Agricultural Research Center-East, Beltsville, MD 20705. Telephone: (301) 504-8089. <http://www.ams.usda.gov/lsg/seed/lsg-sd.htm>

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The OMB control number for this collection of information is (0581-0055). The time required to complete this information collection is estimated to average 1.4 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, sexual orientation, or marital/family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.



Plant Research

860 S Crestline,  
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Cellular: (509) 989-0405  
Fax: (509) 488-5289  
Phone: (509) 488-3977

200400020

**Date:** September 10, 2005

**To:** Mark Hermeling  
USDA/PVPO  
Beltsville, ME  
**From:** ProGene L.L.C  
Kurt Braunwart  
860 S Crestline  
Othello, WA 99344

**Subject:** PVPO Number 200400020

### **Exhibit A: Origin and breeding History of CROA114**

#### **1. Pedigree**

CROA114 was developed by Keith Armstrong of Crop & Food Research, Christchurch, New Zealand from a cross made in 1994. The cross (FINLAY//L84-1137,G1) was a combination of a black hulled oat (Finlay), released in New Zealand as a forage oat cultivar in the early 1990's, and a white hulled genotype, (L84-1137,G1) of unknown origin. It is a sister line to CROA126

#### **2. Selection Criteria**

CROA114 was selected as a single F3 panicle harvested in 1995 from an F2 sown field plot. CROA114 advanced through successive annual generations of single panicle field plot rod rows to F6.

CROA114 was selected by the breeder in New Zealand as a consistently uniform F7 breeding line in the year 2000.

#### **3. Uniformity and Stability**

CROA114 entered Progene LLC replicated forage field trials in Washington State, USA, in the year 2000. From 2001 field testing for its forage production and quality traits commenced in several states along with a parallel system of seed purification and production in USA and New Zealand, and checks for genetic uniformity and stability.

CROA114 has remained uniform and stable for five generations, and in excess of 20 observations, made across a wide range of cropping environments, autumn (fall) sowing in the southern states, spring sowing in northern States, autumn, winter and spring sowing in New Zealand.

CROA114 infrequently exhibits awned plants, about one or two plants per acre.

CROA114 is destined for the autumn sown forage market in California.

3



Plant Research

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Othello, WA 99344

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**Exhibit B Statement of Distinctness**

**CROA114** is most similar to Charisma in plant type and height. Both have small, narrow and compact panicles. Both are semi-dwarfs. The grain hull colour of Charisma is white whereas the grain hull of CROA114 ranges from tan/red (when under magnification) to black (when viewed by the naked eye), often with a grey tip. The grain colour can be influenced by weather conditions during grain maturation. In hot dry conditions grain hull is likely to be tan/red with grey tips. In milder, damper conditions, during grain maturation, CROA114 grain hull is likely to be black, but a grey tip is also likely.

**CROA114** lemma, dorsal view, has no hairs. It differs from **CROA126** which has nil to a few lemma hairs.



Plant Research

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2004 000 20

Cellular: (509) 989-0405  
Fax: (509) 488-5289  
Phone: (509) 488-3977

October 21, 2003

To: Mark Hermeling  
USDA/PVPO  
Beltsville, MD

From: Kurt Braunwart  
ProGene, L.L.C.

Subject: Exhibit B 114 Oat Statement of Distinctness

The enclosed information is to replace the Statement of Distinction mailed with our application on October 6, 2003.

114 oat is most similar to Charisma oat in visual appearance. In height comparison they are very close with 114 oat being 1.4% taller than Charisma at full heading the last three year average.

A significant difference we have found between varieties is, Charisma is five days earlier to heading out than 114 oat. Since this data is over two years, we are still collecting data between the two varieties.

Additional data will be added to the PVP application as it becomes available.

Sincerely,

Kurt Braunwart  
ProGene LLC  
Managing Owner

5

October 21, 2003

To : Mark Hermeling  
USDA/PVPO  
Beltsville, MD

From: Kurt Branuwart  
ProGene, L.L.C.

Subject: Exhibit B Statement of Distinctness

## Charisma & Croa 114 Comparison for PVP

Yr.	Variety	Rep	Planting Date	Heading Out	Days to Heading	Ht.
2001	Charisma	Rep I				36
	Charisma	Rep II				25
	Charisma	Rep III				35
2002	Charisma	Rep I	4/19/02	27-Jun	69	44
	Charisma	Rep II	4/19/02	25-Jun	67	41
	Charisma	Rep III	4/19/02	25-Jun	67	37
2003	Charisma	Rep I	4/15/03	23-Jun	69	37
	Charisma	Rep II	4/15/03	23-Jun	69	39
	Charisma	Rep III	4/15/03	23-Jun	69	38
Avg.					68.3	36.9

Yr.	Variety	Rep	Planting Date	Heading Out	Days to Heading	Ht.
2001	Croa 114	Rep I				25
	Croa 114	Rep II				28
	Croa 114	Rep III				29
2002	Croa 114	Rep I	4/19/02	28-Jun	70	45
	Croa 114	Rep II	4/19/02	30-Jun	72	44
	Croa 114	Rep III	4/19/02	27-Jun	69	40
2003	Croa 114	Rep I	4/15/03	28-Jun	75	42
	Croa 114	Rep II	4/15/03	30-Jun	77	41
	Croa 114	Rep III	4/15/03	30-Jun	77	43
Avg.					73.3	37.4

A N A L Y S I S   O F   V A R I A N C E  
Height  
CROA 114 VS Charisma, 2005

PVPO # 20040020

Variable: HEIGHT: Friday, October 14, 2005, 10:23:34

Source	df	SS	MS	F-value	Pr > F
Total	11	61.000			
BLOCK	5	17.000	3.400	0.48	0.7823
ENTRY	1	8.333	8.333	1.17	0.3291
Residual	5	35.667	7.133		

Grand mean = 40.500      R-squared = 0.4153      C.V. = 6.59%

LSD for ENTRY = 3.9638, S.E.D. = 1.5420, r = 6.0, Herit. = 0.027

t (2-sided a=0.050, 5 df) = 2.5706      MSE = 7.13333

ENTRY

Averages			
Level	--- Y ---	Cv	Rank
1	41.33	6.2	1 CROA 114
2	39.67	5.0	2 Charisma

Table of original data for HEIGHT across complete blocks (reps)

Entry	Rep# 1	Rep# 2	Rep# 3	Rep# 4	Rep# 5	Rep# 6	Mean	Variety/entry name
1	39	45	38	42	41	43	41	CROA 114
2	42	41	41	37	39	38	40	Charisma

41      43      40      40      40      41      41 Trial and rep averages

HEIGHT Means Separation Table -      LSD = 3.964

ENTRY	MEAN	SIGNIF
CROA 114	41.33	a
Charisma	39.67	a

5% Level of Probability

# ANALYSIS OF VARIANCE

Days to Maturity  
CROA 114 VS Charisma, 2005

200400020

Variable: Days to Maturity: Friday, October 14, 2005, 10:32:37

Source	df	SS	MS	F-value	Pr> F
Total	11	141.667			
BLOCK	5	44.667	8.933	2.03	0.2278
ENTRY	1	75.000	75.000	17.05	0.0091
Residual	5	22.000	4.400		

Grand mean = 70.833      R-squared = 0.8447      C.V. = 2.96%

LSD for ENTRY = 3.1131, S.E.D. = 1.2111, r= 6.0, Herit. = 0.728  
t (2-sided a=0.050, 5 df) = 2.5706      MSE = 4.40000

ENTRY			
Averages			
Level	Y	Cv	Rank
1	73.33	4.8	1 CROA 114
2	68.33	1.5	2 Charisma

Table of original data for Days to Maturity across complete blocks (reps)

Entry	Rep# 1	Rep# 2	Rep# 3	Rep# 4	Rep# 5	Rep# 6	Mean	Variety/entry name
1	70	72	69	75	77	77	73	CROA 114
2	69	67	67	69	69	69	68	Charisma

70      70      68      72      73      73      71 Trial and rep averages  
Days to Maturity Means Separation Table -      LSD = 3.113

ENTRY	MEAN	SIGNIF
CROA 114	73.33	a
Charisma	68.33	b

5% level of Probability



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200400020

Date: March 30, 2004

To : Mark Hermeling  
USDA/PVPO  
Beltsville, MD

From: Kurt Branuwart  
ProGene, L.L.C.

Subject: Exhibit B Statement of Distinctness - 126 oat PVP application

The most similar varieties to 126 Oat are Charisma and 114 Oat . The most definant differences between these two comparison varieties and 126 Oat are the relative height comparisons and the relative days to maturity. Both of these comparison are made in Othello, Washington which is at the latitude where 90% of the seed is scheduled for production. Following are comparisons for both these factors from replicated trials.

### Charisma oat, 114 oat & 126 oat Comparison for PVP

Yr.	Variety	Rep	Planting Date	Heading Out	Days to Heading
2002	Charisma	Rep I	4/19/02	27-Jun	69
	Charisma	Rep II	4/19/02	25-Jun	67
	Charisma	Rep III	4/19/02	25-Jun	67
2003	Charisma	Rep I	4/15/03	23-Jun	69
	Charisma	Rep II	4/15/03	23-Jun	69
	Charisma	Rep III	4/15/03	23-Jun	69
Avg.					68.3

Yr.	Variety	Rep	Planting Date	Heading Out	Days to Heading
2002	Croa 114	Rep I	4/19/02	28-Jun	70
	Croa 114	Rep II	4/19/02	30-Jun	72
	Croa 114	Rep III	4/19/02	27-Jun	69
2003	Croa 114	Rep I	4/15/03	28-Jun	75
	Croa 114	Rep II	4/15/03	30-Jun	77
	Croa 114	Rep III	4/15/03	30-Jun	77
Avg.					73.3

Yr.	Variety	Rep	Planting Date	Heading Out	Days to Heading
2002	126 Oat	Rep I	4/19/02	28-Jun	70
	126 Oat	Rep II	4/19/02	1-July	73
	126 Oat	Rep III	4/19/02	1-July	73
2003	126 Oat	Rep I	4/15/03	30-Jun	77
	126 Oat	Rep II	4/15/03	1-July	78
	126 Oat	Rep III	4/15/03	1-July	78
Avg.					74.6

9  
→

**4 Yr.  
Oat  
Height  
Average**

9/24/03

Application by  
ProGene Plant  
Research L.L.C.  
as representative  
of owner of 126  
oat in U.S.

Page 2 of Statement  
of Distinctness  
Exhibit B for 126 oat  
PVP application

200400020

	114	2000 L	2000 G	2001	2002 F	2002 G	2003	4 Yr. Avg	inches cm
1	Rep I	31	32	25	45	33	42	34.67	
2	Rep II				44	45	41	43.33	
3	Rep III				40	35	43	39.33	
4	Total Avg	31.00	32.00	25.00	43.00	37.67	42.00	35.11	89

	126	2000 L	2000 G	2001	2002 F	2002 G	2003	4 Yr. Avg	inches cm
1	Rep I	40	47	35	45	40	40	41.17	
2	Rep II				47	46	38	43.67	
3	Rep III				45	42	41	42.67	
4	Total Avg	40.00	47.00	35.00	45.67	42.67	39.67	41.67	106

	Charisma	2000 F	2001 Adv	2001 F Obs	2002 F	2002 G	2003 F	4 Yr. Avg	inches cm
1	Rep I	29	36	29	42	41	37	35.67	
2	Rep II				42	40	39	40.33	
3	Rep III				45	36	38	39.67	
4	Total Avg	29	36	29	43	39	38	35.67	91

	Monida	2000 F	2001 Adv	2001 F Obs	2002 F	2002 G	2003 F	4 Yr. Avg	inches cm
1	Rep I	33	41	39	44	44	40	40.17	
2	Rep II				46	45	46	45.67	
3	Rep III				44	37	45	42.00	
4	Total Avg	33.00	41.00	39.00	44.67	42.00	43.67	40.56	103

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2005 OCT 17 AM 11:59

U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE  
~~SOLE AGENT FOR THE UNITED STATES~~  
BELTSVILLE, MARYLAND 20705  
OBJECTIVE DESCRIPTION OF VARIETY  
OAT  
(*Avena* spp.)

EXHIBIT  
(Oat)

NAME OF APPLICANT(S) ProGene LLC	VARIETY NAME OR TEMPORARY DESIGNATION 114
ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code) 860 S. Crestline Othello, WA 99344	FOR OFFICIAL USE ONLY PVPO NUMBER 200400020

Place the appropriate number that describes the varietal character of this variety in the boxes below.  
Place a zero in first box (e.g.  or ) when number is either 99 or less.

1. SPECIES:

1 = SATIVA      2 = BYZANTINA      3 = OTHER (Specify) \_\_\_\_\_

2. GROWTH HABIT:

1 = WINTER      2 = SEMIWINTER      3 = SPRING  
 JUVENILE GROWTH: 1 = PROSTRATE      2 = SEMIPROSTRATE      3 = ERECT

STANDARD VARIETIES

1 = JAYCEE      2 = CLINTLAND 64      3 = CAYUSE      4 = NORLINE      5 = YANCEY      6 = FLORIDA 501

3. MATURITY (50% flowering): (to first head emergence)

(5 days later than Charisma)

DAYS EARLIER THAN  STANDARD VARIETY       DAYS LATER THAN  STANDARD VARIETY  
(15 day earlier than 126)  
 Season: 1 = VERY EARLY (Jaycee)      2 = EARLY (Nodaway 70)      3 = MIDSEASON (Clintford)      4 = LATE (Lodi)      5 = VERY LATE (Garry)      6 = EXTREMELY LATE (Mackinaw)

4. PLANT HEIGHT (From soil level to top of head):

CM. TALL (89CM Tall)       CM. SHORTER THAN  STANDARD VARIETY  
 CM. TALLER THAN  STANDARD VARIETY  
(126) Charisma

5. STEM:

DIAMETER: 1 = FINE (Kherson)      2 = MEDIUM (Clintford)      3 = COARSE (Nodaway 70)  
 HAIRINESS AT UPPER CULM NODES: (slight hairs) 1 = HAIRLESS      2 = HAIRY  
 MATURE STEM COLOR: 1 = YELLOW      2 = REDDISH

6. LEAF: (Leaf Color: The Royal Horticultural Society's or any recognized color chart should be used to determine the leaf color of the described variety)

CARRIAGE: 1 = DROOPING (Random)      2 = ERECT (Walken)  
 COLOR: 1 = YELLOW GREEN      2 = LT. GREEN      3 = DK. GREEN      4 = BLUE GREEN  
 MM. WIDTH (First leaf below flag leaf) (16.45)       LEAF MARGIN: 1 = GLABROUS      2 = CILIATE  
 LIGULE: 1 = ABSENT      2 = PRESENT       LEAF SHEATH: 1 = HAIRLESS      2 = HAIRY

7. HEAD:

PANICLE SHAPE: 1 = EQUILATERAL      2 = INTERMEDIATE      3 = SIDE PANICLE (Unilateral)  
 ATTACHMENT OF LOWER WHORL OF BRANCHES: 1 = FIRST NODE      2 = SECOND NODE (False node)  
 PANICLE SIZE: 1 = SMALL (Yancey)      2 = MEDIUM (Walken)      3 = LARGE (Markton)  
 PANICLE WIDTH: 1 = NARROW (Gopher)      2 = MIDBROAD (Yancey)      3 = BROAD (Nodaway 70)  
 CM. PANICLE LENGTH       NUMBER OF BRANCHES       NUMBER OF WHORLS OF BRANCHES  
 POSITION OF BRANCHES: 1 = ASCENDING (Yancey)      2 = SPREADING (Cayuse)      3 = DROOPING (Markton)  
4 = PECTINATE (White Tartar)      5 = CONFUSED (Storm King)

## 8. RACHIS:

2

1 = RECURVED (Yancey)

2 = ERECT (Walken)

3 1

MM. SECOND FLORET RACHILLA SEGMENT LENGTH  
31 mm

1

SECOND FLORET RACHILLA SEGMENT: 1 = HAIRLESS  
2 = HAIRY

RACHILLA HAIRS: 1 = SHORT 2 = LONG

## 9. SPIKELET:

3

SPIKELET SEPARATION BY: 1 = ABSCISSION

2 = SEMIABSCISSION

3 = FRACTURE

3

FLORET SEPARATION BY: 1 = DISARTICULATION

2 = HETEROFRACTURE

3 = BASIFRACTURE

2 0

FLORETS PER SPIKELET (mean no.)

## 10. GLUMES: (Glume Color: The Royal Horticultural Society's or any recognized color chart should be used to determine the color of the described

0 5

MM. WIDTH

5 mm

2 0

MM. LENGTH

20 mm

1 0

NO. OF VEINS ON GLUMES

10 mm

2

COLOR: 1 = WHITE 2 = YELLOW 3 = RED 4 = ST

## 11. LEMMA: (Lemma Color: The Royal Horticultural Society's or any recognized color chart should be used to determine the color of the described

1 2

MM. LENGTH 12 mm

3

COLOR: 1 = WHITE 2 = YELLOW 3 = RED (tan tip)  
4 = GRAY 5 = BLACK

1

HAIRINESS OF DORSAL SURFACE: 1 = HAIRLESS  
2 = HAIRY

## 12. AWN (First floret):

2

OCCURENCE:

1 = ABSENT (Walken)

2 = INFREQUENT (Yancey)

3 = COMMON (Chilocco)

4 = FREQUENT (Random)

1

TYPE: 1 = NON-TWISTED 2 = TWISTED  
3 = TWISTED GENICULATE

0 3

MM. AWN LENGTH 3 mm

## 13. SEED:

2

FLORESCENCE UNDER ULTRAVIOLET LIGHT:

1 = FLORESCENT

2 = NON-FLORESCENT

3

BASAL HAIR:

1 = ABSENT (Florida 501)

4 = SEVERAL TO NUMEROUS (Florilee)

2 = ABSENT TO FEW (Yancey)

3 = FEW TO SEVERAL (Lee)

5 = NUMEROUS (Red Rustproof)

MM. BASAL HAIR LENGTH

4 0 0

GMS. PER 1,000 SEEDS (11,350 sds/lb.)

MG. GROAT WEIGHT (each)

% GROAT PROTEIN

% GROAT OIL

## 14. INSECTS: (0 = NOT TESTED, 1 = SUSCEPTIBLE, 2 = RESISTANT)

0

CEREAL LEAF BEETLE

0

BLUEGRASS BILLBUG

0

GRAIN BUG (C. Sayi)

0

NEMATODE (Type)

0

GREEN BUG (Biotype)

OTHER (Specify) No Testing Done

## 15. DISEASE: (0 = NOT TESTED, 1 = SUSCEPTIBLE, 2 = RESISTANT)

2

HALO BLIGHT

0

POWDERY MILDEW

2

SEPTORIA LEAF BLOTCH

0

SOIL-BORNE MOSIAC

0

HELMINTHOSPORIUM  
LEAF BLOTCH

2

YELLOW DWARF VIRUS

0

VICTORIA BLIGHT

2

OTHER (Specify)

\* In 5 seasons no signs of rust in CA

Barley Yellow Dwarf  
Virus

SPECIFY RACES TESTED:

RACES SUSCEPTIBLE

RACES RESISTANT

1 2

CROWN RUST

Susceptible to Manitoba strain - Moderate Resistance to NZ strain

1 0

STEM RUST

Resistant to Moderate Resistance to Manitoba strain

COVERED SMUT

LOOSE SMUT

## 16. INDICATE VARIETY YOU BELIEVE MOST CLOSELY TO RESEMBLE THAT SUBMITTED:

CHARACTER	VARIETY	CHARACTER	VARIETY
PLANT TILLERING		LEAF COLOR	Monida
LEAF SIZE		LEAF CARRIAGE	Charisma
SEED COLOR		SEED SHAPE	



Plant Research

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Fax: (509) 488-5289  
Phone: (509) 488-3977

200400020

**Date:** September 10, 2005

**To:** Mark Hermeling  
USDA/PVPO  
Beltsville, ME

**From:** ProGene L.L.C  
Kurt Braunwart  
860 S Crestline  
Othello, WA 99344

**Subject:** PVPO Numbers 200400169 (CROA126) and 200400020 (CROA114)

**G. Additional foliar disease data for CROA126 and CROA114**

2002 Winnipeg; The Winnipeg disease screening nurseries incurred natural infections and were also artificially inoculated, providing exceptionally high crown and stem rust pressures, an intensity unlikely to be repeated in a commercial cropping environment.

CROWN RUST (Winnipeg 2002)		
Cultivar	Score(1-100%)	Rating
CROA126	50-60%	susceptible
CROA114	70%	susceptible
CROA118	70%	susceptible
CROWN RUST (CFR 2003)		
	Score(1-9)*	Rating
CROA126	4.0	moderately resistant
CROA114	5.5	moderately susceptible
CROA118	5.0	moderately susceptible
STEM RUST (Winnipeg)		
CROA126	moderately resistant to moderately susceptible	
CROA114	resistant to moderately resistant	
CROA118	resistant to moderately resistant	
SMUT (Winnipeg)		
CROA126	resistant	
CROA114	resistant	
CROA118	resistant	

\* (1= resistant 9 = highly susceptible)

U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). The information is held confidential until the certificate is issued (7 U.S.C. 2426).

**EXHIBIT E**  
**STATEMENT OF THE BASIS OF OWNERSHIP**

1. NAME OF APPLICANT(S) New Zealand Institute for Crop & Food Research Ltd.	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER Croa 114	3. VARIETY NAME 114
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP, and Country) Private Bag 4704 Christchurch, New Zealand	5. TELEPHONE (Include area code) +64-3-325-6400	6. FAX (Include area code) +64-3-325-2074
7. PVPO NUMBER 2004 000 20		

8. Does the applicant own all rights to the variety? Mark an "X" in the appropriate block. If no, please explain ☒ YES ☐ NO

ProGene is the representative of the owner/applicant

9. Is the applicant (individual or company) a U.S. National or a U.S. based company? If no, give name of country ☐ YES ☒ NO

New Zealand

10. Is the applicant the original owner? ☒ YES ☐ NO If no, please answer one of the following:

a. If the original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. National(s)?

☐ YES ☐ NO If no, give name of country

b. If the original rights to variety were owned by a company(ies), is (are) the original owner(s) a U.S. based company?

☐ YES ☒ NO If no, give name of country  
New Zealand

11. Additional explanation on ownership (If needed, use the reverse for extra space):

**PLEASE NOTE:**

Plant variety protection can only be afforded to the owners (not licensees) who meet the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed the final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definitions.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 6 minutes per response, including the time for reviewing the instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

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To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14<sup>th</sup> and Independence Avenue, SW, Washington, D.C. 20250-9410 or call (202) 720-5924 (voice and TDD). USDA is an equal opportunity provider and employer.

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